Barbera C, Jones M, Korac S, Saliterer I, Steccolini I.

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Governmental financial resilience under austerity in Austria, England and Italy: how do local governments cope with financial shocks?

By

Carmela Barbera, Martin Jones, Sanja Korac, Iris Saliterer, Ileana Steccolini

Corresponding author: ileana.steccolini@newcastle.ac.uk

Abstract

The recent economic and fiscal crisis provides an opportunity for learning lessons of general and practical relevance into how governments face shocks affecting their financial conditions. This article draws on the resilience concept to investigate the organizational capacities that are deployed and/or built by local governments (LGs) to respond to such shocks, looking at their combinations and interactions with environmental conditions. The paper presents the results of a multiple-case analysis of 12 European LGs across Austria, Italy and England. The analysis allows to highlight and operationalize different patterns of financial resilience, i.e. self-regulation, constrained or reactive adaptation, contented or powerless fatalism, that are the result of the interaction and development over time of different internal and external dimensions.

Introduction

Governments throughout the world have been challenged by the recent economic and fiscal crisis. An increasing number of contributions have explored governmental responses to what has become commonly referred to as 'the crisis' (Kickert 2012; Lodge and Hood 2012; Peters 2011; Peters *et al.* 2011; Pollitt 2010), often focusing on austerity, decline and cutback management (Kickert 2012a; Posner and Blöndal 2012; Raudla *et al*. 2015). Surprisingly fewer

studies deal with the long-term strategic and managerial consequences of such phenomena for public organizations (Bozeman 2010; Pandey 2010; Pollitt 2010) or the processes and capacities which allow them to respond to crises. Calls have thus emerged to develop crisis research, with attention to the skills and capacities required to cope with crises (Boin and Lodge 2016). This article responds to this scholarly call and practical need by drawing on the concept of resilience. Looking at Local Governments (LGs), it explores the multiple facets of governmental financial resilience, i.e. governments' ability to anticipate, absorb and react to shocks affecting their finances over time. In doing so, the paper identifies the internal and external dimensions and capacities that shape governmental financial resilience, and sheds light on how their interaction gives rise to different resilience patterns.

In order to capture the organizational processes and capacities behind governmental responses to the crisis, 12 case studies across Austria, Italy and England are analysed. These countries represent different administrative traditions (Meyer and Hammerschmid 2010; Pollitt and Bouckaert 2011) and financial vulnerabilities (see Lodge and Hood 2012), providing evidence that, if some processes and dynamics may be specific to the country settings or dependent on environmental conditions, at the same time similar resilience patterns can be identified across countries, depending on how external conditions and internal capacities intertwine over time. Though the study is placed in the context of a financial crisis and its aftermath, the aim of the paper is not to look at country-level, or specific, responses to the crisis. Rather, the variety of cases and countries under analysis allows to highlight and operationalize patterns of behaviors of more general relevance to public management and resilience literature.

The article is structured as follows. The next section reviews current literature on financial and organizational responses to shocks and resilience, highlighting the purpose and main research questions of the paper. The third section specifies the methods. The results are presented in the

fourth section. Section five discusses the findings, and the final section draws the conclusions and implications for research and practice.

Responding to financial shocks and crises: adopting a resilience perspective

Responding to shocks

The recent crisis has brought about a resurgence of interest in governmental fiscal stress and organizational reactions to shocks. Financial management literature has seen in the crisis an opportunity for reviving the long-standing academic interest in decline and cutback management (Hood and Wright 1981; Levine 1978, 1979; Levine and Posner 1981; Schick 1980). Studies of how governments tackled the crisis and austerity have been developed in the aftermath of the crisis (Cepiku *et al.* 2015; Kickert 2012a, 2012b, 2013; Overmans and Noordegraaf 2014; Raudla *et al.* 2015; Scorsone and Plerhoples 2010; West and Condrey 2011), most of them contributing to an accumulation of contextual knowledge on fiscal and organizational response strategies by providing detailed and rich accounts and classifications of governmental reactions. Fewer studies also take an explanatory stance, looking at the role of organizational and/or contextual factors in affecting such reactions (Cepiku *et al.* 2015; Hendrick 2011; Jimenez 2012, 2014; Maher and Deller 2007; Overmans and Timm-Arnold 2016), while generally paying less attention to explaining how these factors influence each other over time, thus leaving governments more or less vulnerable to the next crisis.

The crisis has also revived research focusing on the effectiveness of organizational reactions to shocks and turbulences (e.g. Boyne 2006, Boyne and Meier 2009a, 2009b; Meier and O' Toole 2009; Meier *et al.* 2010; O' Toole and Meier 2010). This predominantly quantitative research stream highlights the role of organizational capacities, but has pointed to the need to further explore them in more depth and over time (Bettis and Hitt 1995; Boyne and Meier

2009a; Meier and O' Toole 2009), i.e. to explore how organizational capacities are not only deployed to cope with shocks, but also evolve and interact with environmental conditions before, as well as as a consequence of such shocks.

The recent financial crisis provides fertile ground for addressing these aspects and learning new lessons by adopting a long-term view (Bozeman 2010). This study uses the perspective offered by resilience (Davoudi *et al.* 2013; Suttcliffe and Vogus 2003) to contribute to enrich and integrate the insights coming from the above streams of literature. A resilience perspective not only captures organizational processes behind governmental responses to crises from a long-term perspective, but also draws attention to the interaction of external and internal factors and illuminates their role in dealing with shocks and shaping related vulnerabilities (Shaw 2012; van der Vegt *et al.* 2015).

Adopting a resilience perspective

Resilience has experienced an increasing transfer to social sciences (e.g. Davoudi *et al.* 2013; Linnenluecke 2017), though with a diversity of perspectives. The engineering perspective on resilience focuses on recovery and the ability of *bouncing back* to an original state (Boin and Van Eeten 2013; Holling 1973; Pickett *et al.*2004; Shaw 2012; Sutcliffe and Vogus 2003; Vickers and Kouzmin 2001; Bhamra *et al.* 2011; Boin and McConnell 2007; Boin and Van Eeten 2013; Coutu 2002; Davoudi 2012; Duit 2016). Under this perspective, financial and personnel capacity are aimed to build slack that absorb shocks (Huy and Mintzberg 2003; Meyer 1982) to ensure survival. The evolutionary perspective on resilience (Davoudi 2012; Hamel and Välikangas 2003; Pike *et al.* 2010) emphasizes the capacity to reorganize as a response to, or in anticipation of, disturbances (Martin and Sunley 2006), to "keep operating even in adverse 'worst case' conditions and to adapt rapidly in a crisis" (Hood 1991, p. 14).

Here, resilient organizations recognize a window of opportunity in disruptions and alter or reinvent their strategies *('bounce forward')* before circumstances force them to do so (Gunderson and Holling 2002; Hamel and Välikangas 2003).

The above considerations suggest that the resilience concept has different definitions, thus calling for further explorations aimed at identifying whether different forms of resilience can be observed empirically.

Not only is resilience multifaceted, but in the literature it is also shown to be the result of a variety of dimensions (Darnhofer 2014; Linnenluecke 2017). Some authors focus on anticipation and awareness of risks (Lengnick-Hall and Beck, 2005; Somers, 2009; Linnenluecke and Griffith 2013; see also Boin *et al.* 2010, p. 7 and Boin and Lodge 2016,), or situation awareness (McManus *et al.* 2007), ie, the extent to which an organization has a clear understanding of the environment and is able to manage key vulnerabilities. Other authors have highlighted the capacity to cope with unanticipated shocks once they manifest themselves (Wildavsky 1988, p. 88) and to quickly resume crucial functions (Boin 2016), as well as adaptive capacities, ie, the set of available resources and competencies that allow persistence, adaptation and transformation in the face of disturbances (e.g. Davoudi *et al.* 2013; Darnhofer 2014; Linnenluecke and Griffith 2013; Nelson *et al.* 2007).

In the above mentioned literature, resilience dimensions are discussed in broad terms, with a variety of meanings and mostly from a normative perspective. As such, there is no general agreement on how different dimensions shape resilient behaviour (Linnenluecke 2017). Indeed, there have been calls in the public administration literature for empirical studies to give more depth on the different dimensions of resilience (Boin and Lodge 2016; Boin and Van Eeten 2013; Duit 2016). This would also require exploring their combination and interactions over time, and how these affect overall resilience.

Since the recent crisis offers the possibility of studying multiple cases of LGs reacting to it, it is possible to reach a finer grained view both on reactions to the crisis, and on resilience patterns, by looking at how resilience can be shaped by various dimensions and conditions. In light of these considerations, this study aims to explore the multiple facets of financial resilience, i.e. governments' ability to anticipate, absorb and react to shocks affecting their finances over time. In doing so, and trying to address the above gaps, it is aimed at (i) identifying the internal and external dimensions and conditions that shape financial resilience; (ii) exploring if their development and interaction over time gives rise to different resilience patterns; (iii) better understanding how capacities evolve, i.e. are deployed and developed, and interact in anticipation or in reaction to crises over time.

In addressing these aims, reliance on resilience literature allows to add new insights on the role of the interactions of environmental conditions and internal capacities and conditions in shaping such actions and reactions over time. At the same time, the paper enriches resilience literature by identifying and operationalizing the relevant dimensions of financial resilience.

Methods

Research design

Given the aim of the paper mentioned above, a case study design appears to be particularly suited for connecting theory and empirical evidence (Yin 2009). This approach allows the exploration of phenomena emerging from the data, while at the same time embracing useful concepts that have been discussed in prior literature (Suddaby 2006; see also Denis *et al.* 2001; Edmondson *et al.* 2001; Ridder *et al.* 2006).

The analysis is based on a multiple-case study of 12 European LGs across Austria, Italy and England. The next subsections further explain the choices regarding the context of the analysis, the selection of cases, and data sources and analysis.

The context: European LGs

The variety of European countries' administrative traditions (Hesse and Sharpe 1991; Meyer and Hammerschmid 2010; Pollitt and Bouckaert 2011), financial vulnerabilities (Lodge and Hood 2012) and reactions to the global financial crisis (Lodge and Hood 2012; Peters 2011) allows the adoption of a 'most different/most dissimilar' approach (Przeworski and Teune 1970) in the selection of countries (Hesse and Sharpe 1991; Kuhlmann 2010; Wolman 2008). Thus, Austria was chosen as a country belonging to the Continental European administrative tradition and with medium financial vulnerability before and after the crisis; England as an example of the Anglo-Saxon tradition and of a country with low financial vulnerability before the crisis, and high after it; and Italy as Southern European country, and one with high financial vulnerability before the crisis and medium after it. The most relevant differences across the three countries are summarized in table 1 in the appendix, which present their main features in terms of administrative tradition and intergovernmental fiscal relationships.

Case selection

The case selection targeted LGs which show similar administrative responsibilities and functions in their respective countries. In Italy these were seats of province, in Austria seats of district authorities and in England single-tier and county councils (STCC).

A theoretical sampling approach in three steps was adopted (Patton 2015; Neumann 2006, p. 224; Eisenhardt and Graebner 2007), whereby the cases were 'chosen to fill theoretical

categories‘ (Eisenhardt 1989, p. 537). The first step required the definition of possible categories of cases through the identification of key variables to be represented. Given the aim to explore how governments deal with shocks in their finances over time, long-term measures of financial performance were considered. The criteria for selection were thus identified in the average financial performance and its volatility over ten years (2002-2011). The conventional measure of governmental financial performance is the budgetary position, which has traditionally been expected to be kept around zero (Bretschneider and Gorr 1992; Rose and Smith 2011) as LGs are often legally required to balance the budget at the end of each year[1].

In the second step, LGs were classified in terms of their combination of average budgetary position and volatility. This allowed to identify main groupings of cases, representing common and at the same time polar combinations across the countries: low volatility and a budgetary position around zero, high volatility and negative or positive, as well as around-zero budgetary positions. Other combinations were much less likely to occur (i.e. negative or positive budgetary position and low volatility) and were thus not included in the analysis.

In the third step, one case for each of these four combinations of budgetary position and related volatility was selected for each country, leading to a total of 12 cases. Table 2 in the appendix provides financial data on the selected cases, covering functions and revenue structure of LGs.

Collection of data and analysis

30 semi-structured interviews served as the cornerstone of the case study (Yin 2009), but triangulation of informants (up to three interviewees per case) and of data sources were relied

[1] For Italy and Austria, that adopt a commitment based method of accounting, the budgetary position measure is represented by the variation in the commitment-based surplus/deficit position. For England, where a modified accruals basis of accounting is adopted, the measure is represented by the contribution to unallocated reserves as it represents the “balancing figure” between the net budget requirement on the one hand and government grants and locally collected taxation on the other. In England expenditure is reported net of direct income and service specific government grants, and is presented as balancing with the main non-specific sources of income (general government grants, local taxation and contributions to/from reserves).

upon to corroborate the collected information. Document analysis of audit and media reports, and in particular the analysis of the respective LG financial documents, was used to validate statements. The selection of the interviewees identified those individuals who have relevant information on financial issues. In particular, chief executive officers and financial directors were interviewed in all the cases (except one where the officer was not available). Additional interviews with service directors were conducted in 3 Italian cases and 3 English cases. In the majority of cases (26 of 30) the interviewees had been working in the respective LG for more than 10 years.

The interviews were carried out between January 2013 and November 2015, lasted between 45 and 90 minutes and included open-ended questions on the financial health of the LG, its main financial and non-financial goals, the main risks and shocks faced by the LG, and how LGs had identified and responded to them.

Given the limitations to ex-ante research designs in crisis research, case studies were carried out ex-post and as such reconstruction of events could be influenced by interviewees' ex-post rationalization (Patton 2015; Trochim and Donnelly 2006). Considering the aim of the study, ex-post rationalization is to be seen as helpful as, while in the short term developments may appear blurred, an ex-post approach offers clearer insights into multidirectional relationships (Pettigrew 1990). This may be especially true in this case, as resilience and its inherent dimensions are often described as becoming observable over time (Linnenluecke 2017) and visible under a particular set of exceptional circumstances.

From the interviews major themes emerged, which were discussed during debriefing sessions among the researchers and compared again with the empirical materials as well as with extant literature. This allowed the initial emergence of broad dimensions of resilience, which were further refined, developed and detailed into new and more focused categories through continuous iteration between the case data and extant literature (Eisenhardt and Graebner 2007;

Stewart 2012). First, in each country the data were coded and classified according to the broad themes and categories that emerged during the data collection and then compared and aligned across countries. These categorizations were compared with contributions from the literature streams discussed above, and coding schemes were revised. The final coding categories and their relationships were examined to identify underlying patterns and reach the final conceptualization of financial resilience. Table 3 in the appendix presents the main variables that emerged from the analysis, their definitions and typologies, as well as how they were operationalized. It also shows how the interviews were coded, providing examples of quotations for each variable.

Exploring financial resilience: dimensions and patterns

Emerging dimensions of financial resilience: the framework

This section presents the main dimensions of financial resilience emerging from the analysis (see also table 3, appendix). The framework that emerged from the iteration process described above revealed that LGs' financial resilience, i.e. their ability to anticipate, absorb and react to shocks affecting their finances, was the result of the interaction of environmental conditions as well as organizational dimensions over time, as shown in figure 1.

(Figure 1 here)

The *environmental conditions*, encompassing economic, institutional and socio-economic contextual features, are considered relevant in shaping perceived financial vulnerabilities and capacities.

Two main categories of capacities for facing shocks emerged from the analysis: anticipatory and coping capacities. *Anticipatory capacities* refer to the availability of tools and capabilities that enable LGs to better identify and manage their vulnerabilities and recognize potential financial shocks before they arise. Anticipatory capacity is not limited to the presence of systems to plan, control, and manage risks, but also related to situation awareness and sense-making (e.g. Boin *et al.* 2010; Lengnick-Hall and Beck 2005; Linnenluecke and Griffith 2013; Mcmanus *et al.* 2007, Somers 2009; Weick and Sutcliffe 2009). *Coping capacities,* which lie dormant in times of order and become visible in times of disruption through coping actions (Linnenluecke 2017), refer to resources and abilities that allow shocks to be faced and vulnerabilities to be managed. Coping capacities can take different forms: *buffering capacities, ie,* the ability to absorb the impact of a shock without changes in structures or function; *adapting capacities, ie,* the ability to implement incremental changes to extant structures and functions without changing underlying principles, culture, and values; *transforming capacities*, ie, the ability to implement radical changes, encompassing structures, functions, goals and values (see also Béné *et al.* 2012; Darnhofer 2014; Davoudi *et al.* 2013;).

In general terms, *vulnerability* represents the exposure to shocks (Hendrick 2011; McManus 2007) and is the result of both external (e.g. dependency on grants) as well as internal (e.g. debt financing, reserves) sources, turning out to be at the interface between the environment and the organization. Rather than an objective measure of vulnerability, it is the *perceived vulnerability*, which proved to be central in understanding patterns of financial resilience (see also Jimenez 2012; Maher and Deller 2007, 2011). The roles of the above dimensions are further discussed in the next section.

Emerging patterns of resilience

The interaction of the above conditions and dimensions gave rise over time to different patterns of financial resilience: *self-regulation, constrained or reactive adaptation, contented or powerless fatalism.* These patterns are discussed in the next sub-sections. Appendices 2-4 sum up, for each LG, how the environmental conditions and organizational dimensions and related perceived vulnerabilities combined to give rise to these patterns.

Self-regulators: A1, E1, E2, I1

The LGs in this group (A1, E1, E2 and I1), generally show low levels of financial vulnerability, high anticipatory capacities and comprehensive coping capacities over time (table 4, appendix). Anticipatory capacities in these LGs relied on well-developed control and planning systems, used for predictions and simulations, and careful creation of reserves. These features appeared to originate in a strong willingness of keeping potential risks under control.

> *'What we have done over the last decade is to move much more towards a 3-year budget strategy. We started that during the good times and it became even more important [...] in times of austerity.' (CEO, E1)*

> *'We try to make good predictions, […] through careful monitoring.' (CEO, I1)*

These LGs succeeded in developing and using coping capacities which addressed their vulnerabilities. Although they used near-term buffering capacities to cope with the crisis, they also relied on adaptive and transformative ones.

For example, I1 increased networking with external stakeholders in providing services. A1 strengthened its self-sufficiency through re-structuring and collegiate planning, hiring people with professional knowledge, enhancing internal competencies, and generating alternative income sources. E1 had embarked on a path of "earned autonomy" and developed a "self-sustaining financial base" which was viewed as a source of strength through the austerity

period, while E2 realized early that it needed to increase locally-derived fiscal income by attracting new businesses and new housing developments.

These LGs aspire to maintain a status of self-sufficiency and self-regulation, avoiding being (too) reliant on funding or regulation from upper government levels, through continuous anticipation of, and active adaptation to, external shocks. This self-regulatory pattern of resilience is found in all the three countries (A1, E1, E2, I1), suggesting that it may be desirable to effectively manage environmental conditions, shocks and challenges. This is also reflected in generally low and stable levels of perceived vulnerability over time.

> *'If you look at our balance sheet you will see that it is extremely healthy in terms of sitting on reserves and cash levels.' (CFO, E1)*

> *'We have the lowest debt level in the state, probably. […] our guiding principle has always been to build reserves for rainy days.' (CEO, A1)*

The above cases show that the willingness to maintain or enhance self-sufficiency encouraged investment in comprehensive anticipatory, adapting and transforming capacities, which ensure a tight control on both external and internal sources of financial vulnerability. Interestingly, in three of four cases the average budgetary position remained consistently around zero over a ten-year period.

Constrained adapters: E3, E4

The LGs in this group (E3 and E4) generally showed high anticipatory capacities and deployment of buffering and adapting coping capacities, but witnessed an increase in perceived financial vulnerability over time (table 5, appendix). It was relatively low when the crisis hit, reflecting a belief that strong anticipatory capacities would make them capable of withstanding disturbances.

> *'[E4] was always well run, we always had plenty of reserves and were well-financed.' (CEO & CFO, E4)*

This gave the crisis a prominent place in decision-making, prompting the taking of early action, and the deployment of coping capacities. Also, it encouraged the creation of reserves, subsequently used both as buffers and as levers to promote change and absorb slippage.

These LGs appear to perceive the environment and the financial shocks as constraining, reflecting a limited ability to cope with external challenges. This left them more dependent on central government resources or decisions and was also reflected in a use of coping capacities focused more on buffering and adaptating, including efforts on managing internal resources through reducing expenditure, rationalizing services, managing demand and increasing efficiency.

> *'We were not always well positioned in terms of opportunities for finances […] We have some very affluent and some very deprived areas...' (CEO, E3)*

This suggests that they perceive their sources of vulnerability as being more out of their hands. The interviews also revealed a sense of doom regarding the uncertain nature of the future outlook.

> *'If it goes on, what can we deliver in 2016? […] no one knows how the financial outlook is going to be […]. Some people are talking about the same level again, but that's just not sustainable with the current breadth of services...' (CEO & CFO, E4)*

Reactive adapters: A2 and I4

The LGs in this group (A2 and I4) were characterized by high vulnerability and limited anticipatory and coping capacities when the crisis hit. However, while the crisis has magnified perceived vulnerability, it also appears to have triggered a reorientation path towards a strengthening of both capacities (table 5, appendix).

After the crisis, A2 experienced budget deficits for three years due to unstable and undiversified revenues sources, high debt financing and strong reliance on grants. I4 seemed to be on the brink of default due to high debt financing, past reliance on one-off revenues which, after the crisis, fell short, and to the low degree of control on external subsidiaries.

In A2, the interviewees recognized a virtual absence of anticipatory capacities, and in I4, planning of activities and the identification of goals were weak.

> *'The economic crisis […] caught us unprepared.' (CFO, A2)*

After the crisis, both LGs started to invest in building the capacities aimed to address their respective vulnerabilities. In particular, A2 perceived the crisis as critical immediately after its occurrence, and hence implemented long-term investment planning and scenario analysis.

> *'We reduced subsidies, personnel costs; on the revenue side, we searched for possibilities with corrections of fees; those were the first measures taken, […] reduced service standards in the area of roads and works, parks, and so on. And then we tried to tackle the structural problems and challenges […] we also did a structural school reform.' (CEO, A2)*

With some time lag, I4 took a similar approach. In 2011, the extraordinary commissioner appointed after the resignation of the mayor increased all taxes, while undertaking rationalization. This translated into a strengthening of monitoring tools, investments in new models for delivering services, increased networking with external stakeholders, and, thus, an overall expansion of anticipatory and coping capacities.

> *'They [the department for social services] have changed the way they manage services to ensure that the LG becomes a facilitator of relations, a point of collection of resources from the territory.' (CFO, I4)*

Strengthening their initially low anticipatory and coping capacities, A2 and I4 appear to have

embarked upon a path of *reactive adaptation*. Notwithstanding their challenging institutional and economic environment and the impact of shocks (for both a decrease in revenues, with lower taxes and grants for A2 and a tightening of fiscal targets and increased regulatory uncertainty in I4), the interviewees felt they were in the position to address their vulnerabilities.

Contented fatalists: A3 and A4

The fourth group includes two Austrian LGs (A3, A4) that were not initially perceived as particularly vulnerable, thanks to a high, stable and diversified own-revenue base, but whose perceived vulnerability increased after the crisis (table 6, appendix).

> *'Luckily we have financially strong businesses that pay a lot of taxes.' (CFO, A4)*

Anticipatory capacities in these LGs were initially weak as they were not seen as necessary. In A3, investment in anticipatory capacities (e.g. anticipated approval of supplementary budget, quarterly information on financial condition) was made after the crisis, however the coping capacities deployed (mainly buffering, e.g. cost cuts, deferring investments) did not address emerging vulnerabilities, mostly related to an ageing population.

> *'When the crisis occurred in 2007/2008, we immediately tried to reduce our spending, […] to defer investments or maintenance…' (CFO, A3)*

A similar pattern can be observed in A4, where favorable environmental conditions may have encouraged the LG to downplay emerging vulnerabilities, while not investing in anticipatory and coping capacities.

> *'...risk monitoring, assessment… this does not exist' (CEO, A4)*

In short, A3 and A4 appear to behave like contented organizations, which, resting on their laurels, had not anticipated the crisis, and hope to weather the storm relying on buffering

capacities. In the long term, however, this may translate into increased vulnerability and the need to take stronger actions.

Powerless fatalists: I2 and I3

The fifth group includes two Italian LGs (I2 and I3) characterized by initial high vulnerability (e.g. high burden of debt repayment and doubtful liabilities[2]), a sense of powerlessness in the face of the crisis and limited anticipatory capacities. Relying mainly on buffering and postponing critical issues to the future, they both experienced an increase in their perceived vulnerability after the crisis (table 6, appendix). Low anticipatory capacities are reflected in weak monitoring and planning mechanisms.

'We do not have [...] an office for management control.' (CFO, I3)

Coping with the crisis was dominated by deploying buffering capacities, ranging from cost cutting to deferring investments in both LGs, reliance on selling assets (I2), and building of financial reserves from a one-off transaction (I3) made in 2008 with a subsidiary company.

'Certainly we think about the capacity to have sources of revenues. […] Among the alternatives, selling assets […]' (CEO, I2)

Of particular relevance was the belief of not being able to react to the crisis and the higher legislative uncertainty that characterized Italy in its aftermath. The financial crisis and its consequences seemingly exceeds the threshold of existing capacities, leading to a perception of powerlessness and forcing these LGs to a day-by-day management of emergencies, highly reliant on buffering capacities.

[2] Doubtful liabilities are liabilities of doubtful recovery.

Although the interviewees declared that they were starting to improve their anticipatory capacities by increasing monitoring, a short-term perspective prevailed and the increased uncertainty appears to translate in a higher level of vulnerability after the crisis.

> *'We tried to live year-to-year, not to say almost day-to- day.' (CFO, I3)*
>
> *' We are often forced to postpone activities. Imminence and urgency affect the quality of programming.' (Service Director, I2)*

This suggests a *fatalist type of resilience*, externally driven, constrained by external pressures and limited reliance on internal capacities. This combination supports a vicious circle, whereby the limited capacities feed vulnerability and the perception that the latter cannot be controlled may, in turn, discourage investment in capacities.

Discussion

This study set out to explore the internal and external dimensions that shape financial resilience in the aftermath of the crisis, identify the different resilience patterns they give rise to, and how such dimensions develop and interact in the face of crises. In doing so, it provides a first operationalization of governmental financial resilience.

Looking at the dimensions of resilience, the analysis adds to previous literature offering a view not only on organizational responses, but also on the roles of the environmental conditions, types and combinations of organizational capacities, and actors' perceptions in shaping how LGs face shocks and crises. More specifically, the above analysis provides evidence of how anticipatory and coping capacities as well as perceived financial vulnerability contribute to explain emerging patterns of financial resilience, offering an in-depth operationalization of such capacities and patterns.

Looking at resilience patterns, the findings presented above show that the interaction of these dimensions gave rise to different patterns of financial resilience: self-regulation, constrained or reactive adaptation, contented or powerless fatalism. The findings provide a rich view of these typologies of LG financial resilience, corroborated by the multiplicity of cases and shown in the appendices to the paper. This adds to existing literature on responses to crises, by proposing a novel typology that is not only based on responses, but also on how the responses are shaped by existing external conditions and internal dimensions. It also responds to recent calls for exploring the diversity of approaches to resilience (Duit 2016).

In looking at how the combination and interaction of different resilience dimensions can explain emerging resilience patterns, the analysis suggests that a balanced view is necessary to understand such patterns, integrating the literature that emphasizes the importance of environmental conditions in affecting governments' behaviors (Boyne and Meier 2009; Hendrick 2011; Linnenluecke 2017) with the resilience literature looking at internal capacities reviewed above.

Examples of this need were evident in each of the three countries. In England, it seems that the institutional environment may have affected LGs anticipatory capacity. There, according to the interviewees, the managerial reforms implemented over the last few decades may have fostered and institutionalized high anticipatory capacity, thus contributing to equipping the investigated LGs to anticipate possible shocks. However, this alone could not explain the different – *self-regulatory* and *constrained adapters* – resilience paths in this country. More specifically, these cases show the importance of coping capacities in addressing environmental conditions and managing emerging vulnerability over time. In Italy, the re-centralization of decisions, constantly changing central regulations on revenues and transfers, as well as difficult economic conditions were mentioned as limiting in all cases. However, this resulted in low anticipatory capacity and limited coping capacities (mainly buffering) and higher vulnerability in two LGs

only (*powerless fatalists*). The other two tried to keep their vulnerability under control either by developing, or by keeping their anticipatory capacity high and deploying at least selective coping capacities (*self-regulatory and adaptive resilience*). For Austria, the relatively stable policy and regulatory framework together with low monitoring requirements, and the relative economic affluence of local economic conditions appeared to be the reason for low anticipatory capacity and mainly limited coping capacities (mostly buffering) in two cases (*contented fatalist resilience*). In contrast, the other two show patterns of *self-regulatory* and *adaptive resilience* that are similar to the respective English and Italian cases mentioned above.

The analysis also revealed that, while anticipatory, adaptive, and transformative capacities are complementary and appear to reinforce each other, reducing perceived financial vulnerability, heavy exploitation of buffering capacities may crowd out the development of other capacities needed to bounce forward, resulting in higher levels of vulnerability over time (Davoudi *et al.* 2013; Meier and O'Toole 2009; Wildavsky 1988).

Finally, this study points to the major role played by the perceived sources of vulnerability in explaining patterns of resilience (see also Boin *et al.* 2010; Lengnick-Hall and Beck, 2005; Linnenluecke and Griffith 2013, Lu and Xue 2016; McManus et. al. 2007; Somers 2009; Weick and Suttcliffe 2009). The LGs' financial vulnerability was discussed as being the result of both external (e.g. dependency on grants, undiversified revenues) and internal (e.g. debt financing, reserves) sources influencing the LGs' exposure to financial shocks, and thus turned out to be at the interface between the environment and the organization. The across-case analysis revealed that - more than a specific level of vulnerability (Hendrick 2011) - the 'endogenization' of vulnerability (i.e. the sense of being able to influence its sources) or its 'exogenization' (i.e. the sense of being unable to control its sources) affected the way in which the financial crisis and the resulting impacts were interpreted, and received attention. At one extreme, the sources of financial vulnerability were regarded as at arm's length and thus

manageable. This was the case among the *self-regulators,* where strong and comprehensive investment in anticipatory and coping capacities increased the ability to manage or offset the impact of environmental conditions. In this case vulnerability was kept under control.

At the other extreme, the sources of vulnerability were generally attributed to the overall environment and scant consideration was given to the development of internal capacities. This resulted either in *powerless* behaviors, where the environment was seen as so uncertain and unfavorable that the possibility to keep vulnerability under control was not considered a viable option, and only buffering capacities were relied upon; or in *contented* behaviors, where favorable environmental conditions seemingly made it less urgent to invest in anticipatory and coping capacities. Both patterns exerted a passive behavior towards their vulnerability sources (’exogenization‘) and an increase in vulnerability was shown. The two extremes suggest the existence of respectively a virtuous and a vicious circle. In the middle between these extremes, there are those LGs where vulnerability either increased (i.e. cases where anticipatory and coping capacities did not target the specific environmental sources of vulnerability that emerged after the crisis, such as *constrained-adaptive* patterns) or decreased (i.e. cases where the shock represented an opportunity to invest in capacities to re-gain ownership of vulnerability, such as *reactive-adaptive* patterns). Indeed, it can be expected that in regaining ownership of their vulnerability, these LGs may be able to adapt and progress in time to positions of *self-regulation*, or may ultimately find they are *constrained* in the extent to which they can manage sources of disturbance in the environment.

The above reflection also contributes to explain why it was not always possible to identify a direct link between resilience patterns and the financial data used to select the LGs, as specific combinations of budgetary position and volatility do not necessarily lead to specific resilience patterns. This link could only be observed in the self-regulatory group, where average budgetary position remains consistently around zero. In contrast to other resilience patterns,

self-regulatory resilience seems to be related to a strong orientation towards maintaining a stable financial position even after adjusting for shocks. However, where volatility is higher and the budgetary position is different from zero, this link disappears and mere financial data are not sufficient to explain emerging patterns of resilience, requiring to take jointly into consideration environmental conditions and internal capacities and a central role is played by perceived vulnerability.

Conclusion

The increased uncertainty, volatility and complexity under which LGs operate, coupled with significant reductions in public spending, have put great emphasis on how they cope with shocks, especially financial ones. This article has explored governmental resilience, i.e. governments' ability to anticipate, absorb and react to shocks affecting their finances over time. In doing so, different patterns of financial resilience (i.e. self-regulation, constrained or reactive adaptation, contented or powerless fatalism) have been identified, and internal and external dimensions that shape these patterns have been traced out. The perspective of resilience proved useful in integrating contributions from different streams of literature and to analyse the deployment and development of internal capacities of governments in dealing with uncertainty related to shocks and disturbances (Davoudi 2012; Linnenlucke and Griffith 2010; Mamouni-Limnios *et al.* 2014; Shaw 2012; Sutcliffe and Vogus 2003; Weick and Sutcliffe 2007). This approach therefore provides insights of more general and long-term relevance on how LGs' financial resilience is shaped by environmental conditions, organizational dimensions, and financial vulnerability.

Though the study is placed in the context of a financial crisis and its aftermath, and looks at three countries, the variety of cases and countries under analysis allow to highlight and

operationalize patterns of behaviors that can be seen as being of more general relevance to the literature.

The study provides evidence that environmental conditions, often highlighted in contributions on fiscal stress and austerity, are not sufficient per se to explain different resilience patterns and to ensure resilience-building processes, which require serious consideration and development of organizational (anticipatory and coping) capacities. At the interface between environmental conditions and organizational capacities lies perceived financial vulnerability, which is at the same time the consequence of their interaction over time, as well as an important explanation of resilience patterns. This study therefore provides support to the view that it may be necessary to go beyond country-based characterizations of public sector organizations, especially at the local level, and that it is necessary to take a finer-grained view on how the environmental and organizational features shape financial resilience.

The analysis can have relevant implications for practitioners and policy makers alike. From the point of view of policy makers, this study highlights the role of centrally-defined policies in inhibiting or enhancing LGs' anticipatory and coping capacities and influencing perceived financial vulnerability. Regulators may encourage the creation of mandatory reserves to use as a countercyclical tool, while fostering revenue diversification and fiscal autonomy. The analysis also suggests that public managers should not only look at the external environment and nationally imposed policies to prepare for or cope with shocks, but also reflect on sources and levels of vulnerabilities, thereby understanding what anticipatory and coping capacities they need to nurture and develop in order to anticipate, absorb, and react to shocks affecting their finances over time.

As any analysis, also this study has limitations, in that it focuses on three countries, twelve cases, and the LG level. Further studies, including cross-country and cross-government analyses, might test the proposed framework using quantitative approaches, also looking at the

evolutions of patterns of resilience and related dimensions over several years. Aspects that may deserve further consideration are the external and internal determinants of endogenization and exogenization of vulnerability[3], as well as the challenges that decision makers face in deploying, while at the same time not exhausting, coping capacities.

[3] We owe this idea for further research to one of the reviewers.

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Appendix Table 1 – Country comparison, general indicators

	Austria	Italy	UK-England
Population in mio.	8.47	59.69	63.91
GDP per capita in Euro	37,000	25,600	29,600
General debt level as % of GDP	89%	145%	105%
General fiscal balance as % of GDP	-1%	-3%	-6%
Administrative tradition	Continental European model	Southern European Model	Anglo-Saxon Model
No. of LGs	2,357	8,092	9,000
No. of seats of district authorities/seats of province/STCCs	72	117	152
Level of decentralization	Federal	Unitary ("Quasi-federal")	Unitary
LG profiles	North Middle European Group	Franco Group	Anglo-Group
Main LG fiscal sources	Municipal business tax (payroll tax); resident property tax; fees and charges	Municipal property tax; household waste tax; tax on the occupation of public spaces and areas; local advertising tax; surtax on personal income tax; fees and charges; surtax on electricity consumption; municipal tax on building licences provincial vehicle insurance tax and registration tax; regional tax on productive output; regional automobile tax; fuel duty	Council tax (resident property); retained and redistributed non-domestic rates (business rates); other government grants (including specific government grants); sales, fees and charges; council rents
Main LG shared taxes	Value added tax; property acquisition tax; corporate income tax; personal income tax; petrol tax	Personal income tax (municipalities and provinces); personal income tax and corporate income tax (regions with special status)	Business rates (business property tax)
Financial arrangements	Centralized collection with re-distribution agreement of main taxes (VAT, income taxes) and state caps on LG taxes Deficit/surplus targets for central and sub-central government and sanctioning mechanism set in Stability Pact Issuance of LG own debt allowed only to finance capital expenditure, approval required depending on state government regulation, cap on debt depending on the state government	Annual constraints on expenditure and/or the budget balance of sub-central government set in Stability Pact Issuance of LG own debt allowed only to finance capital expenditure, no approval by upper-level government required, cap on debt service	Central grant distribution determined by centrally set funding formula, including redistribution of business rates (amended 2014/15 to include an element of business rates retained locally Statutorily required to set a balanced budget Issuance of LG own debt allowed only to finance capital expenditure, no approval by upper-level government required, internally set caps on debt

All figures 2013. Data taken from OECD databases and national statistics offices. Information on financial arrangements: European Commission (2012).

Appendix Table 2: Financial data across cases

	Austria				England				Italy			
	A1	A2	A3	A4	E1	E2	E3	E4	I1	I2	I3	I4
Revenues Percentage by Type[4]												
Own-Taxes	20.30%	28.35%	21.68%	21.92%	8.52%	16.38%	21.46%	14.97%	48.93%	46.87%	50.26%	48.81%
Shared Tax Revenues/Grants	37.39%	36.40%	32.82%	41.81%	74.91%	58.24%	60.81%	66.68%	20.10%	19.29%	21.81%	21.16%
Fees and Charges and Other Income	42.36%	35.27%	45.58%	36.10%	16.57%	25.38%	17.73%	18.35%	30.97%	33.84%	27.93%	30.03%
Expenditure Percentage by Function[5]												
General Public Services	16.11%	21.78%	18.41%	11.29%	11.80%	6.39%	6.58%	13.25%	16.87%	22.06%	24.53%	16.10%
Public Order and Safety (e.g. police, fire)	1.30%	3.19%	2.79%	0.85%	-	-	-	-	5.48%	5.36%	5.22%	4.80%
Education, Recreation, Sports	11.42%	14.06%	11.52%	13.43%	31.12%	39.43%	50.77%	38.30%	45.25%	4.90%	5.50%	5.97%
Culture, heritage and related services	6.53%	1.67%	3.11%	5.11%	2.60%	3.04%	1.82%	0.16%	0.14%	2.18%	0.95%	0.87%
Social Services, Housing Services	10.05%	13.02%	11.31%	8.65%	41.37%	40.04%	28.06%	34.87%	27.75%	17.97%	28.44%	30.10%
Health	4.49%	9.06%	7.27%	10.94%	3.12%	3.02%	3.33%	3.68%	-	-	-	-
Infrastructure (e.g. Roads, Transport)	2.88%	3.66%	5.25%	8.02%	3.21%	3.27%	5.21%	4.89%	2.92%	6.72%	6.95%	7.58%
Economic Affairs	1.11%	1.15%	1.01%	1.52%	-	-	-	-	1.59%	1.88%	0.77%	0.90%
Municipal Services (e.g. sewerage, water)	46.10%	32.42%	39.33%	40.19%	6.77%	4.81%	4.23%	4.85%	19.67%	23.49%	19.93%	20.06%
Financial Ratios[6]												
Budgetary Position	-0.16%	-1.11%	0.71%	0.12%	-0.01%	-1.57%	2.02%	0.01%	0.02%	-1.12%	2.70%	-0.02%
Volatility	*1.71%*	*17.30%*	*10.89%*	*21.39%*	*0.81%*	*3.46%*	*2.25%*	*4.47%*	*0.54%*	*5.26%*	*7.57%*	*5.40%*
Operating Ratio[7]	17.94%	7.16%	3.61%	13.76%	7.39%	1.69%	4.40%	6.22%	-0.13%	10.79%	2.83%	-2.28%
Volatility	*6.60%*	*10.26%*	*1.87%*	*3.87%*	*2.59%*	*1.65%*	*1.18%*	*1.36%*	*2.33%*	*1.63%*	*3.99%*	*4.79%*
(Net) Operating Ratio[8]	9.82%	-6.36%	-2.88%	4.47%	0.54%	-0.42%	1.14%	0.44%	-3.22%	-4.03%	-0.80%	-10.04%
Volatility	*6.95%*	*13.14%*	*7.88%*	*3.98%*	*1.18%*	*1.35%*	*1.11%*	*1.13%*	*2.79%*	*11.30%*	*5.56%*	*6.44%*
Debt Ratio[9]	72.23%	99.89%	56.80%	113.32%	68.84%	29.73%	36.37%	56.18%	20.60%	130.06%	47.62%	61.14%
Volatility	*8.61%*	*27.62%*	*9.30%*	*28.83%*	*34.18%*	*4.77%*	*4.23%*	*9.32%*	*4.04%*	*7.85%*	*2.59%*	*19.84%*
Investment Ratio[10]	16.60%	27.11%	13.44%	31.58%	18.99%	11.07%	9.34%	16.74%	33.02%	77.10%	30.10%	64.47%
Volatility	*3.82%*	*14.78%*	*6.26%*	*13.57%*	*4.31%*	*2.06%*	*1.16%*	*6.64%*	*14.82%*	*33.60%*	*8.85%*	*19.06%*

Sources: England - Revenue Outturn Summary (RS) and Capital Expenditure and Receipts (COR4) datasets 2002/03 to 2011/12, plus Revenue Outturn Service Expenditure Summary (RSX) datasets 2006/06 to 2011/12 – Department for Communities and Local Government (DCLG), United Kingdom

[4] Ten year average between 2002 and 2011 for Austria and Italy, 7 year average between 2005/06 and 20011/12 for England due to availability of data

[5] Based on 2013 actuals for Austria and Italy and 2013/14 actuals for England

[6] Ten year averages between 2002 and 2011 for Austria and Italy and 2002/03 and 2011/12 for England

[7] (Total operating revenues - Total operating expenditures)/Total operating revenues

[8] (Total operating revenues - Total operating expenditure - Debt repayment) / Total operating revenues [debt repayment = Interest paid; in the UK also includes Minimum Revenue Provision]

[9] (Outstanding debt/Total Operating revenues)

[10] (Capital Expenditure on assets, grants/loans awarded and equity acquisition)/Operating Income

Appendix Table 3: Variable definition and operationalization

Note: text in [brackets] indicates the themes emerging from interviews

Variable and definition	Categories and definition	Quotes (Examples)
Financial shock Major unexpected event in the external environment perceived as affecting LG finances	**Financial crisis and consequences** The phenomenon of a series of crises experienced in 2007-2009 and their aftermath, in literature broadly referred to as the 'Global Financial Crisis' or 'the Great Recession'	"2009/2010 was then the economic crisis [economic crisis], that has posed a problem." (CFO, A2) "The big change was certainly the financial crisis in 2008 [financial crisis]." (CFO, A4) "The economic crisis [economic crisis] affects building policies (urban plans do not start)." (CEO, I2) "Today we have lower revenues from building permits… this is the consequence of the economic crisis." (Staff, Office for the budget, I4) "The largest one has been the financial crisis [financial crisis] and there were other ones that were a consequence [austerity] of that." (Service Director, E2) "I think it [the financial crisis] was a shock, it was very shocking." (CEO, E3) "We had planned for further reductions but it turned out to be a lot lot worse than….our savings target overnight went up [austerity] from £127 to £157 million over a 5 year period and that I would say was a shock." (CFO, E3)
External environment The institutional, economic and social environment in which local governments operate	**Institutional environment** The system of rules, regulations, policies set by upper governmental levels and under which local governments operate	"We have no control over the bigger part of revenues and expenditures [fiscal regulations/autonomy]." (CFO, A3). "Every year the law changes [fiscal regulations/uncertainty] - the Stability Pact, transfers." (CFO, I4) "We have the most centralized system of resource allocation [fiscal regulations/autonomy] to be found anywhere in Europe, so therefore our dependency on the priorities of central government…is therefore clearer and more visible than it is elsewhere." (CEO E1) "Most people will see the headlines that local authorities are allowed to keep 50 % of business rates. We get to keep 27 % [fiscal regulations/autonomy] in E2 because we are deemed to be too affluent to start with..." (CFO, E2) "We plan in a medium-term perspective, we have to – by law [planning rules]. (CFO, A4) "[It] says in a LAAP bulletin (as part of the regulatory environment) you must risk assess [monitoring rules], so every year we risk assess and we include it in our 5 year financial plan." (CFO, E3)
	Economic environment Economic conditions of the area where the local government operates	"Luckily we have financially strong businesses that pay a lot of municipal taxes [strong economic base]." (CEO, A4) "We have many small and medium sized enterprises [diversified economic base]" (CEO, A3) "We are a very successful city generating lots of jobs, lots of growth in economic terms [economic growth]" (CFO, E1) "In E3 we were not always positioned well in terms of opportunities for finances [weak financing opportunities]…. We have got some very affluent areas and some very deprived areas..." (CEO, E3) "[E4] is not the most affluent of areas, so in terms of council tax, we don't have lot in terms of council tax yield [weak financing opportunities]….. We don't have an industry that is specific to [E4]…" (CEO & CFO, E4)
	Socio-demographic environment Social and demographic characteristics of the LG population	"We are rather declining [decreasing population] that hurts us since grants are related to the population." (CEO, A3) "There has been a gradual deterioration of the ability of citizens to pay. [...] And also in relation to the demand for services (canteens, nurseries) the percentage of unrealized revenues is increasing. [increasing deprived population]" (CFO, I4) "You know, the population has increased by over 100,000. We have the fastest growth [population growth] in the country. That has brought great challenges. We used to be known to have an ageing population [ageing population], now there is an absolute explosion of young people [influx of younger people] coming to live in the city." (CEO, E1) "We've got more people with disabilities [high level of disabilities] living longer, we've got an ageing population and demographic changes [ageing population], E4 is going as fast as anywhere in the UK. We've got no taxes to pay for these services..." (Service Director, E4)
Perceived Vulnerability		"We have many small and medium sized enterprises, and therefore we did not have such an impact on the municipal tax [strong and diversified tax revenues] the crisis hit us, we had to increase the debt level [high debt financing] to finance our investments." (CFO, A3)…the

Perceived exposure to financial shocks and disturbances		grants, here we have the problem that the population has been stagnating [stagnation of grants] within the last years." (CFO, A3) *low, increasing perceived vulnerability* "We operated with losses [budget deficits] for three years. […] It was a drop in grants, drops in municipal taxes [undiversified and unstable revenue sources]. […] This was massive, going into millions. [However] we were able to increase the municipal tax revenues within the last years. [decreased dependence on undiversified revenues] We are reducing the debt level [decreasing debt] especially the burden of loans." (CEO, A2) *high, decreasing perceived vulnerability* "We […] are one of the Italian Municipalities with the lowest level of debt.[low debt financing]" (CFO, I1) *low perceived vulnerability* "From 2005 to 2011...the story is very different: they [referring to managers] continued to make investments and to finance them, they made borrowing […] It was 2009, when we registered 57 million of debt [high debt financing]. We have a particularly wide network of subsidiaries [reliance on but low control of subsidiaries], about 40 companies, municipal public companies, some of them are also shared with private businesses, and when I arrived in 2012, all the companies were basically insolvent and defaulted [danger of default] we were talking about a financial collapse [danger of default] of the Municipality." (CEO, I4) *high perceived vulnerability* "By having that diversified economic base [diversified economic base] our dependency on particular sectoral difficulties and crashes was much lower. If you look at our balance sheet you will see that it is extremely healthy in terms of sitting on reserves [healthy financial reserves] and cash levels and the overall debts are down very considerably [low debt financing]. We cannot change the economic cycles. What we can do is to reduce our dependency and promote maximum independence [self-sufficiency] to be able to ride and overcome those economic cycles. E1 has done this and continues to do that." (CEO, E1) *low, stable perceived vulnerability* "E4 was always well run, we always had plenty of reserves [healthy financial reserves] and were well financed. We kind of continued that." (CFO, E4) "We are under borrowed [low debt financing], so we've got cash. […] In terms of our overall financial health I think we are still healthy […] a lot of risk has been transferred to local authorities [risk transferred from central government] with for my view not a great amount of reward. There is a target on the department [to] save £ 250,000, so we are talking 32 times the scale [of] the challenge and people were saying it can't be done because of the rise in demand in the population. (Service Director, E4) "If it goes on, what can we deliver in 2016? […] no one knows how the financial outlook is going to be after that [uncertainty regarding near future]. Some people are talking about the same level [of savings] again, but that's just not sustainable with the current breadth [misfit between funding and service responsibilities] of services the local authorities have to deal with...I don't think we can do what we have done again." (CFO, E4) *low, increasing perceived vulnerability*
Anticipatory Capacities The ability to identify and manage LG vulnerabilities, to recognize (potential) shocks in an early stage, and to understand their impact on the LG	Tools that are used to monitor the environment and help to identify and manage LG vulnerabilities. The tools can exist or be built up internally-driven, or externally-driven, e.g. instruments required by upper governmental levels LG actors' mental processes of knowing, including awareness, perception, reasoning and judgment. The cognitive anticipatory	"We still managed to master this [crisis] well […] this is also due to a conscious financial management. It is the administration's responsibility to warn in time. […] I mean, the signals were there…[cautious planning, monitoring and control processes]" (CEO, A1) *high anticipatory capacity* "The economic crisis […] it caught us unprepared because we did not recognize its dimension. [low environmental (trends) and self-awareness]" (CFO, A2) *low anticipatory capacity* "Well, I have to say that political actors now are aware [increasing awareness] that you have to maintain the balance, one can observe this. [weak medium-term financial planning][…] The quarterly reports are a monitoring tool [enhanced financial monitoring]" (CFO, A3) *increasing anticipatory capacity* "Let's say that they [managers] know [the financial constraints], but they often simply ignore it. [weak awareness]" (CFO, I3) *low anticipatory capacity* "The antidote to such a changing, uncertain and unpredictable situation is to use prudence and gradualness in the assumption of expenditure obligations. [strong planning]" (CFO, I1) "We try to make good predictions, […] through careful monitoring [monitoring and control processes, simulation]. The budget is not written once but is constantly reviewed during the year. [monitoring and control processes, re-budgeting]" (CEO, I1) *high anticipatory capacity* "We implemented a new management system, […] thus we are able to schedule the activities at the beginning of each year and to monitor the results, even in terms of management control. [enhanced planning and monitoring]" (CEO, I4) *increasing anticipatory capacity* "No, we didn't invest in Icelandic Banks we saw the writing on the wall months before, there were enough rumours out there, emails, 7 to 6 months before. We have never had any long-term deposits in Iceland Banks so we have never had any treasury risks like that. Most people hadn't anticipated but we had. We have also put £10 million aside 14/15 for any residual on […] the appeals side. [high environmental awareness]" (CFO, E1) *high anticipatory capacity*

	capacities are enhanced by the existence and quality of technical anticipatory capacities.	"In terms of risks itself I think it is very important that you have a very realistic and very focused risk management system [risk assessment, risk management] what's the top 20 risks the organization faces…we regularly look at those risks, revise the lists and you update them. [risk assessment, risk management]" (CEO, E2) *high, stable anticipatory capacity* "I think we have a financial plan that is honest, [medium-term financial planning] […] we have a strong corporate management team where there is a huge amount of honesty and challenge. We have a corporate risk approach, so a corporate risk manager […] a corporate risk register. [risk assessment, risk management]" (CEO, E3) "Every department produces their own risk register which identifies the key issues […] we identify with them [audit committee] what the risk is, what our mitigation is, and what our attempt is to get the score down to a reasonable level. [risk assessment, risk management]" (CFO, E3) *high, stable anticipatory capacity*
Coping capacities The ability to deal with the impact of shocks and disturbances. These capacities lie dormant in times of order and become visible in times of disruption (shock) through coping actions.	**Buffering capacities** The ability to absorb the impact of a shock without changes in its structure or function	"When the crisis came in 2007/2008, we have immediately tried to reduce our spending [cost cuts], […] to defer investments or maintenance [defer investment, defer expenditures]." (CFO, A3) "There were internal discussions, how we can cope with the crisis from a budgetary perspective, where we can cut spending. Revenues were not problematic, it was all about savings, lower expenditures [cost cuts]." (CFO, A4) We have somewhere in the region of £7 million of completely unallocated strategic reserve, that's real rainy day money [financial reserves]. We have quite a lot in various ear marked reserves […] We have another reserve […] and we have used it to put money in and out as a smoothing mechanism [financial reserves] across years…so we didn't have to take big hits." (CFO, E2) "We […] tried to contain costs [cost cuts] by reducing what we thought can be decreased. […] We were able to avoid investing [deferring investments] in things that are not strictly necessary." (CFO, I3) "In 2011 the Municipality was put under receivership [...] when the commissioner came, he first increased the rates of all taxes [increasing taxes] in order to reach budget balance." (CFO, I4) "We have reserves, which allows us to absorb some of the shocks [financial reserves] if some of the savings don't come along quite as early as we would like. […] yes, we have made big cuts [cost cuts] in adult care but a lot of it is because we now charge [increasing charges] for which we hadn't done previously." (CFO, E3)
	Adapting capacities The ability to implement incremental changes to extant structures and functions without changing underlying principles, culture, values.	"We focused very much on attracting businesses, despite the economic crisis, and we also succeeded in attracting some employers. [proactive activities in attracting businesses] […] This has helped much in municipal taxes, and thereby we have counteracted the negative development." (CEO, A2) "We have greatly increased our cooperation with the job center [increasing networking with external stakeholders] (Service Director, I1) "Several re-organizations have occurred […] reduction of organizational positions […] reduction of allowances for managers." (CEO, I4) "What we are trying to do is move our budget setting process to being more outcome based [enhancing performance management], and trying to refocus the money left on our most vulnerable within the town, on the services we have to provide for those who can't provide for themselves." (CFO, E2) "The vast majority of reductions made are not made by reducing [services] over the years. The majority have been made because we do things better, we cut out the waste.
	Transforming capacities The ability to implement radical changes, characterized by new 'rules of the game', i.e. changes in the structure, function, goals and values of the LG	"When planning investments, we are looking for EU funding possibilities so that we do not have to beg the state for funding. So we are relatively independent and flexible. [financial self-sufficiency]" (CEO, A1) "The ultimate goal, […] a self-sustaining financial base. [financial self-sufficiency]" (CEO, E1) "Our approach is to innovate, look to see what income we can raise from other means." (CEO, E2) "The modelling we have done shows that probably within the next 4 years, maybe longer, we are almost going to be self-sufficient and won't have any government funding left. [financial self-sufficiency] I would say our goals have kind have turned around that we are trying to make sure we are generating income and that we are self-sufficient and we can do what we want and carry on providing important services without any requirement of government funding has on us. [financial self-sufficiency]" (CFO, E2)

Appendix Table 4: Pattern 1 - Self-regulatory resilience.

	A1	E1	E2	I1
Budgetary position	*Zero*	*Zero*	*Negative*	*Zero*
Volatility	*Low*	*Low*	*High*	*Low*
Context	***Institutional*** Obligatory but non-binding medium term financial planning ***Economic*** Strong and diversified economic base, poor region ***Socio–demographic*** Population stagnation, shrinking region	***Institutional*** Centralized system of resource allocation, limits on local tax increases (referendum) ***Economic*** Strong and diversified economic base, economic growth ***Socio-demographic*** Population growth, ageing population, influx of younger people, unemployment	***Institutional*** Centralized system of resource allocation, limits on local tax increases (referendum) ***Economic*** New Town status eases planning and development processes, wealthy economic region ***Socio-demographic*** Population growth	***Institutional*** Financial dependence of LGs on central decisions and grants ***Economic*** Wealthy economic region, housing bubble since the beginning of the Millennium ***Socio-demographic*** ---
Financial shocks	Financial crisis, grant reduction	Grant reduction, reduced business rates income due to appeals (unfunded)	Financial crisis, grant reduction to negligible levels, low business rates retention due to affluence and reduced business rates income due to appeals (unfunded)	Grant reduction, increased demand for services, tightening of fiscal targets, re-centralization of decisions and financial controls, regulatory uncertainty
Perceived vulnerability levels and sources before the shock and their /evolution over time *	*Initially low* *stable over time* Low debt financing, healthy financial reserves, /alternative income sources	*Initially low* *stable over time* Low debt financing, alternative income sources, healthy financial reserves	*Initially medium* *decreasing over time* Low financial reserves, dependency on central grants /alternative income sources (tax), decreasing dependence on central grants, increasing financial reserves	*Initially low* *stable over time* Low debt financing, high level of revenue recovery
Level and types of anticipatory capacity before the shock and their /evolution over time **	*Initially high* *stable over time* Embedded medium-term financial planning, cautious planning, monitoring and control processes	*Initially high* *stable over time* Medium-term financial planning, risk assessment and other monitoring tools, environmental and self-awareness	*Initially high* *stable over time* Medium-term financial planning, risk assessment and other monitoring tools	*Initially high* *stable over time* Risk assessment, strong planning, monitoring and control processes (e.g., simulations, re-budgeting)
Levels ad types of coping capacity***	*Comprehensive* **Buffering:** Financial reserves, cost cuts, deferring investments **Adapting:** Enhancing internal competencies, restructuring and collegiate planning, partnerships with private developers **Transforming:** Financial self-sufficiency (alternative income sources)	*Comprehensive* **Buffering:** Financial reserves, cost cuts, increasing fees and charges, virements, prioritization **Adapting:** Invest to save, efficiencies, risk management and performance management, collegiate planning, task review, partnerships **Transforming:** Autonomy and financial self-sufficiency	*Comprehensive* **Buffering:** Financial reserves, cost cuts, increasing fees and charges, virements **Adapting:** Invest to save, enhancing performance management, partnerships with private developers, collegiate planning **Transforming:** Financial self-sufficiency	*Comprehensive* **Buffering:** Cost cuts, increasing fees and charges, prioritization, deferring investments **Adapting:** Increasing control of subsidiaries, rationalization, increasing networking with external stakeholders **Transforming:** ---

* This row contains information on the *initial levels/ the changes in vulnerability over time*, the initial vulnerability sources before the financial shock / their evolution over time.

** This row contains information on the *initial level /the changes in anticipatory capacity over time*, the initial types of anticipatory capacities before the financial shock /their evolution over time.

*** Level of coping capacity: limited – the few coping actions and main focus on buffering indicate limited coping capacities; selective – several coping actions of buffering and adapting indicate selective coping capacities; comprehensive – the full use of the spectrum of coping actions in buffering, adapting and transforming, indicate comprehensive coping capacities.

Appendix Table 5: Pattern 2 and 3- Constrained and reactive adaptation.

	E3 (Constrained Adapters)	E4 (Constrained Adapters)	A2 (Reactive adapters)	I4 (Reactive Adapters)
Budgetary position	*Positive*	*Zero*	*Negative*	*Zero*
Volatility	*High*	*High*	*High*	*High*
Context	***Institutional*** Centralized system of resource allocation, limits on local tax increases (referendum), dependence of LGs on central government transfers and grants ***Economic*** Weak financing opportunities due to geographical position ***Socio-demographic*** Ageing population, high level of disabilities and complex needs	***Institutional*** Centralized system of resource allocation, limits on local tax increases (referendum), dependence of LGs on central government transfers and grants ***Economic*** Weak financing opportunities due to the lack of industries at the local level ***Socio-demographic*** Ageing population, high level of disabilities	***Institutional*** No control over large share of revenues (grants) and expenditures (transfer payments), low LG autonomy, strict oversight regulations (limits on loans) ***Economic*** Industry-dependent, big employers ***Socio-demographic*** ---	***Institutional*** Dependence of LGs on central decisions and grants ***Economic*** Housing bubble since the beginning of the Millennium ***Socio-demographic*** Increasing deprived population
Financial shocks	Financial crisis, grant reduction, increased demand for services	Grant reduction, equal status scheme, risk transferred from central government due to new council tax benefit scheme and business rates retention appeals (both unfunded)	Financial crisis, grant reduction and tax decrease	Grant reduction, decreasing revenues from building permits, tightening of fiscal targets, re-centralization of decisions, regulatory uncertainty
Perceived vulnerability levels and sources before the shock and their /evolution over time *	*Initially low* *Increasing over time* Healthy financial reserves /dependence on grants, uncertainty regarding near future, misfit between funding and service responsibilities	*Initially low* *Increasing over time* Low debt financing, healthy financial reserves /dependence on grants, uncertainty regarding near future, misfit between funding and service responsibilities	*Initially high* *decreasing over time* Undiversified and unstable revenue sources, dependence on grants, high debt financing, budget deficits /decreased dependence on undiversified revenue sources, decreasing debt, budget stable	*Initially high* *Decreasing over time* High debt financing, reliance on but low control of subsidiaries (liabilities), one-off revenues, danger of default, /decreasing number of subsidiaries, decreasing debt and borrowing
Level and types of anticipatory capacity before the shock and their /evolution over time **	*Initially high* *stable over time* Medium-term financial planning, risk assessment and other monitoring tools	*Initially high* *stable over time* Medium-term financial planning, risk assessment and other monitoring tools, high environmental awareness	*Initially low* *Increasing over time* Weak medium term financial planning, low environmental (trends) and self-awareness /long-term investment planning, scenario analysis, increasing self-awareness	*Initially low* *Increasing over time* Weak planning, weak monitoring and control /enhanced planning and monitoring of expenditures
Levels ad types of coping capacity***	*Selective* **Buffering:** Financial reserves, cost cuts, increasing fees and charges, virement, prioritization **Adapting:** Risk management, efficiencies, multi-agency working, re-structuring services, collegiate planning **Transforming:** ---	*Selective* **Buffering:** Financial reserves, cost cuts, virement, prioritization, over-programming (for flexibility) **Adapting:** Invest to save, risk management and performance management, re-balancing the budget, partnerships, collegiate planning **Transforming:** ---	*Selective* **Buffering:** Cost cuts, increasing fees and charges, deferring investments and maintenance, selling assets (after needs assessment) **Adapting:** Task review, restructuring services (mergers), intercommunal urban planning, proactive activities in attracting businesses **Transforming:** ---	*Selective* **Buffering:** Cost cuts, increasing taxes, deferring investments, prioritization **Adapting:** Networking with external stakeholders for service provision, re-organizations, re-targeting service users, task review, brake on debt **Transforming:** ---

Appendix Table 6: Pattern 4 and 5 – Contended and powerless fatalism.

	A3 (Contended Fatalist)	A4 (Contended Fatalist)	I2 (Powerless Fatalist)	I3 (Powerless Fatalist)
Budgetary position	*Positive*	*Zero*	*Negative*	*Positive*
Volatility	*High*	*High*	*High*	*High*
Context	***Institutional*** Dependence of LGs on central government transfers and grants ***Economic*** Strong and diversified economic base, landlocked ***Socio-demographic*** Decreasing population	***Institutional*** Obligatory but non-binding medium-term financial planning ***Economic*** Strong and diversified economic base ***Socio-demographic*** Population growth	***Institutional*** Financial dependence of LGs on central decisions and grants ***Economic*** Housing bubble since the beginning of the Millennium ***Socio-demographic*** ---	***Institutional*** Financial dependence of LGs on central decisions and grants ***Economic*** Housing bubble since the beginning of the Millennium ***Socio-demographic*** ---
Financial shocks	Financial crisis, delayed grant reduction	Financial crisis, grant reduction	Grant reduction, decreasing revenues from building permits, increasing demand for services, tightening of fiscal targets, re-centralization of decisions and financial controls	Grant reduction, increasing demand for services, tightening of fiscal targets, re-centralization of decisions and financial controls
Perceived vulnerability levels and sources before the shock and their /evolution over time *	*Low/increasing* strong and diversified tax revenues, assets as reserves /high debt financing, foreign currency loans, stagnation of grants, weak networking and partnerships with other LGs	*Low/increasing* growing, strong and diversified tax revenues, high debt financing /no financial reserves, unprepared for further shocks	*High /increasing* High debt financing, reliance on but low control of subsidiaries (liabilities), doubtful liabilities, high dependence on intergovernmental grants /unstable revenue sources	*High /increasing* Slow revenues recovery, weak managerial responsiveness on financial constraints /unstable revenue sources
Level and types of anticipatory capacity before the shock and their /evolution over time **	*Low/ increasing* Weak medium-term financial planning /anticipated approval of supplementary budget, enhanced financial monitoring	*Low /increasing* Weak medium-term financial planning, constant use of re-budgeting, implicit and informal planning /"Crisis management team" of political and administrative actors	*Low/ increasing* Weak planning, and monitoring processes, limited information exchange /monitoring of revenues collection	*Low/ increasing* Weak planning and monitoring processes, low awareness /monitoring of revenues collection and of balanced budget
Levels and types of coping capacity***	*Limited* **Buffering:** Cost cuts, increase in fees and charges, deferring investments and expenditures, increase in debt (loans) **Adapting:** Urban planning **Transforming**: ---	*Limited* **Buffering:** Moratorium on debt repayment, cost cuts, deferring investments, centralization of purchasing **Adapting:** --- **Transforming:** ---	*Limited* **Buffering:** Selling assets, cancellation of doubtful liabilities **Adapting:** --- **Transforming:** ---	*Limited* **Buffering:** Financial reserves (one-off transactions with the subsidiary company), cost cuts, deferring investments, prioritization of expenditures **Adapting:** --- **Transforming:** ---